



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,466	10/23/2003	Eun Kyu Jang	139-011D	2570
23429	7590	02/25/2005	EXAMINER	
GREGORY SMITH & ASSOCIATES 3900 NEWPARK MALL ROAD, 3RD FLOOR NEWARK, CA 94560			CHEN, TIANJIE	
		ART UNIT		PAPER NUMBER
		2652		

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,466

Applicant(s)

JANG ET AL.

Examiner

Tianjie Chen

Art Unit

2652

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***Period for Reply****A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 08 March 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-6 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

***Non-Final Rejection***

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1-6 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant Admitted Prior Art (AAPA).

Claim 1, AAPA shows a flex interconnection circuit 220 +224 in Figs. 1 and 2 on an inherent substrate, including: a connector bonding site (the site between 220 and 226 in Fig. 2, which includes portion 224 in Fig. 1B) coupled to an electronic component collection bonding site (a portion of the site located between 220 and 226 and a portion of the site located between 220 and the MR read/write heads 220-206 in Fig. 2); and said electronic component collection bonding site coupled to at least one MR read-write head bonding site (the site between 220 and 200); wherein said electronic component collection includes at least one preamplifier 222.

Claim 2, AAPA further shows that the electronic components collection includes a preamplifier, which is one member of the collection, inherently including at least one resistor and one capacitor.

Claim 3, AAPA further shows a flex interconnection circuit in Figs. 1 and 2 including: an inherent a flex interconnection circuit substrate as described above, a connector 226 bonded to the connector bonding site; the electronics component collection bonded to the electronics component collection bonding site comprising at

least the preamplifier bonded to the electronic component bonding site; and at least one MR read-write head 220 bonded to said MR read-write head bonding site; wherein the flex interconnection circuit 220 couples the connector and the preamplifier; wherein the flex interconnection circuit 220 couples the preamplifier the MR read-write head.

Claim 4, AAPA further shows a second MR read-write head 202 bonded to the MR read-write head bonding site; wherein said flex interconnection circuit 220 couples the preamplifier 222 and the second MR read-write head 202.

Claim 5, AAPA further shows an actuator 20 (Figs. 1A and 1B; specification, p. 1 line18) including: a head slider (Specification, line 16) affixed with the MR read-write head of the flex interconnection circuit described above, the flex interconnection circuit anchored about the preamplifier to said actuator since it is an actuator flex (Fig. 2); and at least one binding of the flex interconnection circuit 210 in Fig. 2 between said preamplifier 222 and the MR read-write head 200.

Claim 6, AAPA further shows that the above described actuator coupled by the connector 226 to a disk drive controller printed circuit board 1000.

### ***Conclusion***

2. The prior art made of record and not relied upon in PTO-892 Form is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Tianhe Chen*  
TIANHE CHEN  
PRIMARY EXAMINER